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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/650,275

08/29/2000

German Gutierrez

19717-001510US

8800

20350

7590

10/27/2003

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EXAMINER

NADAV, ORI

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/650,275

Applicant(s)

GUTIERREZ, GERMAN

Examiner

ori nadav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 14-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of-drawings, filed on 8/12/2002 has been approved by the examiner. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-7, 14-21 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joardar et al. (5,475,255) in view of Miyata (5,491,658). Joardar et al. teach in figure 1 a semiconductor device comprising a die seal structure for a semiconductor die having a first conductivity type silicon substrate comprising an elongate region 106 electrically isolated from the remainder of the substrate extending around a major portion of the periphery of the substrate and having a gap between ends of the elongate region along a minor portion of the

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periphery; and a conductive seal ring 107 extending around the entire periphery of the die in contact with the die at the elongate region 106 and in direct contact with the gap to provide a limited electrical connection between the ring and the substrate at the gap.

Joardar et al. do not teach a conductive seal ring being in direct contact with the die along the elongate region.

Miyata teaches in figures 8 and 9 a conductive seal ring 141 formed in direct contact with a die along an elongate well region 131, so as to form a PN junction diode therein.

Joardar et al. teach changing the width of the conductive seal ring and the elongate region in order to control and adjust the filtering capabilities of the device.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the width of the conductive seal ring and the elongate region so as a PN junction diode is formed therein and the conductive seal ring is in direct contact with the die along the elongate region in Joardar et al.'s device in order to improve the noise isolation of the device and in order to protect the device from an electrostatic damage by absorbing the an electrostatic surge in the PN junction. The combination is motivated by the teachings of Miyata who points out the advantages of forming a PN junction diode in isolation guard rings separating analog and digital circuits (column 2, lines 8-16 and 59-67, and column 3, lines 1-14).

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Note that the claimed limitations of a conductive seal ring providing a limited electrical connection between the ring and the substrate only at the gap mean that at other points there is no limited electrical connection there between. This limitation allows electrical connection or isolation to be present between the ring and the substrate at locations other than at the gap.

Regarding claims 2, 14 and 19, Joardar et al. and Miyata teach an elongate well region of a second conductivity type, and a substrate of a first conductivity type .

Regarding claims 3-4, 15-16 and 20-21, it is conventional to reverse the polarity of the transistor. Therefore, it would be obvious to reverse the polarity, as claimed.

3. Claims 5, 8, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joardar et al. and Miyata, as applied to claims 1, 14 and 18 above, and further in view of Applicant's Admitted Prior Art (AAPA).

Joardar et al. and Miyata teach substantially the entire claimed structure, as applied to claims 1, 14 and 18 above, except an elongate region comprises an elongate dielectric region. AAPA teaches in figure 1 an elongate region comprises an elongate dielectric region. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an elongate region comprises an elongate dielectric region in Joardar et al. and Miyata's

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device in order to provide better noise isolation to the device with a conventional seal ring.

Regarding claims 8 and 25, AAPA teaches in figure 1 a conductive seal ring comprises a multi layer structure of alternating conducting and insulating layers, and wherein vias are formed in the insulating layers.

Regarding claim 26, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an elongate region comprising oxide in prior art's device, because oxide is a conventional insulating material, of which official notice is taken.

Regarding claim 27, AAPA teaches in figure 1 a conductive seal ring connected to the substrate by a metal stub.

Response to Arguments

4. Applicant argues that prior art does not teach the claimed limitation of an elongate region inhibiting electrical contact between the conductive seal ring and the substrate except at the gap.

The claimed limitation of an elongate region inhibiting electrical contact between the conductive seal ring and the substrate except at the gap is not recited in the rejected claim(s). Although the claims are interpreted in light of the

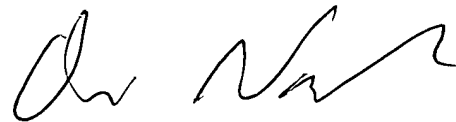
specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Note that the claimed limitations of a conductive seal ring providing a limited electrical connection between the ring and the substrate only at the gap mean that at other points there is no limited electrical connection there between. This limitation allows electrical connection or isolation to be present between the ring and the substrate at locations other than at the gap.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday.

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Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink, appearing to read 'Ori Nadav', with a stylized, cursive script.

O.N.
10/25/03

ORI NADAV
PATENT EXAMINER
TECHNOLOGY CENTER 2800